Statement of Basis

November 5, 2003

Tier I Operating Permit No. T1-9507-114-1

J.R. Simplot Company – Don Siding Plant

Pocatello, Idaho

Facility ID No. 077-00006

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FINAL

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Acronyms, Units, And Chemical Nomenclature

acfm	actual cubic feet per minute
AFS	AIRS Facility Subsystem
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
ASTM	American Society for Testing and Materials
BACT	Best Available Control Technology
Btu	British thermal unit
CAA	Clean Air Act
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gpm	gallons per minute
gr	grain (1 lb = 7,000 grains)
HAPs	hazardous air pollutants
hp	horsepower
hr/day	hours per day
hr/yr	hours per year
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
MACT	Maximum Achievable Control Technology
MMBtu	million British thermal units
NESHAP	National Emission Standards for Hazardous Air Pollutants
NO_X	nitrogen oxides
NSPS	New Source Performance Standards
O&M	operations and maintenance
PM	Particulate matter
PM_{10}	Particulate matter with an aerodynamic diameter less than or equal to a nominal 10 micrometers
ppm	parts per million
PSD	Prevention of Significant Deterioration
PTC	permit to construct
scf	standard cubic feet
SIC	Standard Industrial Classification
SO_2	sulfur dioxide
SO_x	sulfur oxides
T/day	tons per day
T/yr	tons per year
UTM	Universal Transverse Mercator
VOC	volatile organic compound

A. PURPOSE

The purpose of this Statement of Basis is to explain the legal and factual basis for the changes made to the Tier I operating permit issued on December 24, 2002, in response to the Petition for a Contested Case Proceeding, docket No. 0101-03-07, filed by the J.R. Simplot Company (Simplot) on January 28, 2003. This statement of basis is meant to satisfy the requirement to issue a technical memorandum in accordance with IDAPA 58.01.01.362.

B. SUMMARY OF J.R. SIMPLOT COMPANY'S SPECIFIC OBJECTIONS TO TERMS AND CONDITIONS OF THE TIER I PERMIT

The specific objections made by Simplot to the terms and conditions of the permit are summarized below and use the same nomenclature as the appeal to identify items. Attachments to this Statement of Basis include the appeal and prior technical memorandum issued with the permit on December 24, 2002. Changes were not made to the original technical memorandum, but it is attached for reference.

Item B.1

Simplot believes the Tier I Permit requires the use of inappropriate test methods for determining compliance with PM_{10} emission limits. Simplot notes that EPA Method 5 has been used in the past to measure and demonstrate compliance with the existing PM_{10} emissions limits and therefore use of Methods 201A and 202 for PM_{10} compliance amount to new substantive requirements. Simplot requests that DEQ remove all reference to EPA Methods 201A and 202 in Permit Condition 2.15 and Table 2.2.

Item B.2

Simplot requests that Permit Condition 2.15 and Table 2.2 identify all approved alternative test methods.

Item B.3

Simplot believes the requirements to monitor citizen complaints for fugitive emissions and odor are new applicable requirements. Simplot requests that Permit Conditions 2.3 and 2.6 be deleted.

Item B.4

Simplot believes weekly facility-wide inspections of fugitive dust and fugitive emissions are unnecessary. Simplot requests either the deletion of Permit Condition 2.4 or the frequency of inspection be reduced. Simplot requests that Permit Condition 2.8 be revised as follows:

- provide that Simplot must conduct facility-wide inspections of "potential point sources of visible emissions"
- revise to state that water vapor, nitrogen oxides, and chlorine gas are excluded from the see/no-see evaluation
- revise to exclude sources which are subject to source-specific visible emission inspection requirements (see 4.11.2, 7.18.3, 8.18.3, 9.17.1)
- revise to a less frequent monitoring schedule

Item B.5

Simplot believes repeating the full content of applicable rules is unnecessary and unreasonable. Simplot requests that the permit be revised to simply reference the excess emission, NSPS, and NESHAP requirements.

Item B.6

Simplot believes the general requirement in Permit Condition 2.23.1 to monitor and record throughput rates is vague and unreasonable. Simplot requests that Permit Condition 2.23.1 be deleted.

Item B.7

Simplot requests that requirements pertaining to emissions sources at the Don Plant that are no longer in operation be deleted from the permit. Simplot requests the deletion of Section 3 (no. 100 and no. 200 ammonia plants) and Section 11 (nitric acid and nitrogen solutions plants and associated handling facilities).

Item B.8

Simplot believes the Tier I permit prescribes erroneous emissions limits for numerous sources because emission factors have changed. Simplot requests the emission limits in Permit Conditions 4.5, 4.6, 6.1, 6.2, 6.6, 7.4, 7.5, 7.6, 8.4, 8.5, and 8.6 be revised to reflect more current AP-42 emission factors.

Item B.9

Simplot believes including process weight limits for PM emissions is unnecessary for many sources because pound per hour PM emission limits for those sources are more stringent than the process weight rate standard. Simplot requests language be added to Permit Conditions 4.2, 7.1.2, 14.1.2, 14.6.2, 16.3.2, and 17.4 stating that monitoring and compliance demonstrations with the process weight rate are not required. In addition, Simplot requests that Table 7.2 be revised to state that no monitoring and recordkeeping requirements are applicable to demonstrate compliance with Permit Condition 7.1.2.

Item B.10

Simplot believes monitoring requirements for emission control equipment are new substantive requirements.

a. Permit Conditions 4.15 and 4.16 require Simplot to install and maintain indicators which measure the fluid flow rate to the ammonium sulfate plant scrubber and monitor the pressure drop across each scrubber. The underlying applicable requirement from the 1999 operating permit requires Simplot to monitor these parameters "if needed." Simplot requests the conditions be revised to be consistent with the underlying applicable requirement and state that the monitoring of the parameters is required "if needed."

b. Permit Conditions 7.13 and 8.13 require Simplot to monitor the pressure drop across the baghouses for the granulation no. 1 process and the granulation no. 2 process. Simplot believes the conditions are new substantive requirements and should be deleted accordingly.

Item B.11

Simplot believes annual source testing to demonstrate compliance with PM/PM_{10}, SO_2, and NO_x emission limits is inappropriate and unreasonable.

a. Simplot believed the Tier I operating permit would include a tiered testing language which would dictate the frequency of compliance tests based on the percentage of the emissions standard measured during the initial compliance tests. Simplot requests that Permit Conditions 4.11.5, 7.18.4, 8.18.4, 9.17, 12.13.6, 14.8, 16.11.1, 16.11.2, 16.11.3, and 17.10 be revised to include the tiered testing language.

b. Simplot no longer operates the nitric acid plant and requests that Section 11, including requirement to conduct an annual performance test in Permit Condition 11.7.1, be removed from the permit.

Item B.12

Simplot believes the permit includes several conditions that are irrelevant and unnecessary at this time but that may become applicable in the future. See specifically Permit Conditions 9.24, 10.3-10.4.4. Simplot requests that inapplicable conditions be removed from the permit.

Item B.13

Permit Condition 14.4 of the permit states that liquid effluent from a wet scrubbing device installed to control emissions from process equipment cannot be introduced into an evaporative cooling tower. This requirement derives from 40 CFR § 63.602.(e). Simplot believes DEQ wrongly interprets this prohibition to include decanted water from the gypsum stack in Section 6.8.1 of the technical memorandum. Simplot requests the statement that "decanted water cannot be fed into the Reclaim Cooling Tower" be deleted from Section 6.8.1 of the technical memorandum.

Item B.14

Simplot believes there are several conditions in the permit that prescribe testing requirements that Simplot has already satisfied. Simplot requests Permit Conditions 11.7, 15.14, 15.15, 16.3.1, 16.11.1, 16.11.2, 16.11.3, 16.11.4, 16.11.5, and 16.14 be deleted from the permit. Alternatively, Simplot requests that DEQ add language to these conditions stating that Simplot has completed the requirements.

Item B.15

Pursuant to Permit Conditions 14.9-14.11, Simplot must continuously monitor the total inlet and total outlet streams to the reclaim cooling towers. Simplot believes this requirement encompasses an unapproved and arbitrary test protocol to demonstrate compliance. Simplot requests Permit Conditions 14.9-14.11 be deleted.

Item B.16

Simplot believes Permit Condition 16.2 requires continuous monitoring of sulfuric acid mist (H_2SO_4) emissions. The CEMS on the sulfuric acid plant no. 300 is not capable of monitoring H_2SO_4 continuously. Simplot requests Permit Condition 16.2 be revised to delete the reference to the 24-hour rolling average.

Item B.17

Simplot requests the production limit for the sulfuric acid plant no. 300 be revised from 1750 T/day to 1900 T/day.

Item B.18

Simplot notes that the no. 300 sulfuric acid plant stack is subject to two different opacity standards. Permit Condition 16.6 prescribes a 10% opacity limit as determined by EPA Method 9, while Permit Condition 16.7.1 sets forth a 20% limit to be determined by IDAPA 58.01.01.625. Simplot requests reconciliation of opacity requirements on the sulfuric acid plant.

Item B.19

Simplot believes Permit Condition 16.7.2 imposes a requirement on the control of fugitive emissions that is unenforceable. Specifically, the condition reads: "Visible fugitive emissions shall not be observed leaving the property boundary for a period or periods aggregating more than three minutes in any 60-minute period." Simplot requests Permit Condition 16.7.2 be deleted from the permit.

Item B.20

Simplot believes the requirements to monitor ambient concentrations of SO_2 (Permit Conditions 16.15 and 17.8.1) are obsolete. EPA required Simplot to monitor ambient SO_2 concentrations as part of Idaho's SO_2 control strategy for the Eastern Idaho Intrastate Air Quality Control Region. See 41 FR 23200 (June 9, 1976). During the time since Simplot began monitoring SO_2 concentrations the Eastern Idaho region was redesignated to attainment and permitted SO_2 emissions from the no. 300 sulfuric acid plant have been reduced from 2,190 lb/hr to 170 lb/hr. Simplot requests the monitoring requirements be removed from Permit Conditions 16.15 and 17.8.

Item B.21

The compliance schedule (Section 18) states that Simplot is in non-compliance with the Idaho air rules and requires Simplot to apply for and obtain a facility-wide Tier II operating permit to address the alleged non-compliance.

a. Simplot believes the language in the compliance schedule is not only erroneous but highly prejudicial and unreasonable. Simplot requests the language in Section 18 be modified to accurately represent the Don Plant's compliance status.

b. Simplot believes the SO_2 ambient monitoring requirements have been satisfied and requests the reference to non-compliance for ambient monitoring be stricken from Permit Condition 18.1.

c. Simplot believes a facility-wide Tier II operating permit for the Don Plant is not warranted and requests the requirement to apply for and obtain a facility-wide Tier II operating permit be removed from the permit.

Item B.22

Simplot believes they have identified miscellaneous errors in the Tier I permit and technical memorandum that should be corrected.

a. Simplot believes Permit Conditions 2.3, 7.11, 7.12, 8.1-8.12, and 12.4 are not required by federal law and should be labeled "state-only" conditions.

b. Simplot requests Permit Condition 2.23.3 be revised to state: "Ambient fluoride in vegetation <u>used for feed and forage</u> shall be monitored outside the Don Siding Complex at 15 different locations during the growing season." Simplot also requests that Table 2.1 and Section 5.1.16 of the technical memorandum be revised accordingly.

c. Simplot believes the requirement to develop operation and maintenance manuals for the wet scrubber system in the ammonium sulfate plant is a new substantive requirement and should be deleted from the permit.

d. The correct heat input for the HPB&W boiler (Section 5) is 175,000,000 Btu/hr.

e. Simplot believes the correct citation for Permit Condition 5.4 is 40 CFR 60.44b(a)(i).

f. Simplot believes Permit Condition 5.4 incorrectly states the requirements of 40 CFR § 63.624. The condition should state: "The owner/operator using a wet scrubbing emission control system must maintain daily averages of the pressure drop across each scrubber...."

g. Simplot requests the summary description in Section 9 (second paragraph) be revised to "*mono- or di-* calcium-phosphate product."

h. Simplot requests the third paragraph of the summary description in Section 9 be deleted. Simplot is not permitted to make diammonium and/or monoammonium phosphate through the introduction of ammonium and would have to undergo preconstruction review to do so.

i. Simplot requests Table 9.1 be updated to include the revisions requested in an October 16, 2002, email (Exhibit O).

j. Simplot requests Permit Condition 9.1.2 be revised to state that the granulation no. 3 process commenced operation on or after October 1, 1979. The granulation no. 3 process was modified pursuant to a PTC issued December 12, 2001.

k. Simplot requests Table 12.1 be updated to include the revisions requested during the public comment period (Exhibit O).

l. The heading in Section 14 should state "Direct Contact," rather than "Directed Contact."

C. SUMMARY OF REVIEW AND PROPOSED CHANGES

This section contains a review of each appeal item and a summary of the proposed changes to the permit.

Review of Item B.1

The Tier II operating permit issued December 3, 1999 specified the PM_{10} compliance determination method for the phosphoric acid plant, granulation no. 1 plant, granulation no. 2 plant, granulation no. 3 plant, and ammonium sulfate plant to be a U.S. EPA Reference Method 5 test result multiplied by a PM_{10}/PM conversion factor of 0.82. The reclaim cooling towers PM_{10} compliance determination method was a Method 5 test multiplied by a PM_{10}/PM conversion factor of 0.20[1]. It is apparent that the PM_{10} emissions limits were set using these conversion factors. DEQ recognizes that Methods 201A and 202 may result in a different measured emission rate than Method 5 and the conversion factor(s).

Because use of U.S. EPA Reference Methods 201A and 202 for determination of PM_{10} emissions is preferred but was not used to set the emissions limits, DEQ has developed a schedule to transition to a compliance determination using Methods 201A and 202. During calendar years 2004 and 2005 the compliance determination method will continue to be Method 5 and the conversion factor. In addition to the Method 5 testing conducted during calendar years 2004 and 2005, Simplot will conduct Method 201A and 202 tests. By September 30, 2005, Simplot will submit an application to revise the PM_{10} emissions limits in the Tier I and Tier II operating permits for the above mentioned sources that takes into account the results of the Method 201A and 202 tests. DEQ will then issue a revised Tier I operating permit with new PM_{10} emissions limits and include the Method 201A and 202 test methods as the compliance determination method.

[1] Tier II operating permit 077-00006 issued December 3, 1999, Appendix A, footnotes I and J.

Method 201A cannot be used on a wet stack. The methods for measuring PM_{10} emissions, Methods 201 and 201A, were promulgated on April 17, 1990 (55 FR 14246). The Environmental Protection Agency (EPA) stated in the preamble that "The PM_{10} methods are not recommended for stacks with entrained moisture droplets because water drops larger than PM_{10}, which are captured by the PM_{10} cyclone, may contain particles which normally would be counted as PM_{10}." Methods 201 and 201A are not applicable for in-stack PM_{10} measurement in stack gases containing water droplets. Where water droplets are known to exist in the emissions and when PM_{10} measurement is desired, EPA recommends that Method 5 (or a comparable method) be used and its particulate catch be considered as PM_{10} emissions (EMC TID-009). Therefore, on wet stacks, DEQ is requiring a Method 5 and 202 test be performed and the total catch considered PM_{10}.

Proposed Changes to Address Item B.1

Ammonium Sulfate Plant (Section 4)

The dryer and cooler are both controlled by wet scrubbers with wet stacks so a Method 5 and 202 test is required to determine PM_{10} emissions. Permit Condition 4.11 was revised.

Granulation No. 1 Process (Section 7)

The dryer and cooler are controlled by wet scrubbers so a Method 5 and 202 test is required to determine PM_{10} emissions. A Method 201A and 202 test is required on the cooler baghouse to determine PM_{10} emissions. Permit Condition 7.18.1 was revised.

Granulation No. 2 Process (Section 8)

The reactor, granulator, and dryer are controlled by the tailgas scrubber so a Method 5 and 202 test is required to determine PM_{10} emissions. A Method 201A and 202 test is required on the baghouse stack to determine PM_{10} emissions. Permit Condition 8.18.1 was revised.

Granulation No. 3 Process, East Bulking Station, and Defluorination Process (Section 9)

Emissions from the Entoleter scrubber and baghouse are ducted to one stack. Because the stack gas is wet, a Method 5 and 202 test is required to determine PM_{10} emissions. Permit Condition 9.17 was revised. The permit does not require a test of the diatomaceous earth baghouse.

Phosphoric Acid Manufacturing Plants (Section 12)

Emissions from the belt filter scrubber and digester scrubber are ducted to one stack, identified as the belt filter scrubber stack. Because the stack gas is wet, a Method 5 and 202 test is required to determine PM_{10} emissions. Permit Condition 12.13.1 was revised.

Reclaim Cooling Tower Cells (Section 14)

Emissions from the reclaim cooling towers are very wet, so a Method 5 and 202 test is required to determine PM_{10} emissions. Permit Condition 14.6.1 was revised.

No. 300 Sulfuric Acid Plant (Section 16)

Permit Condition 16.11.3 is taken directly from the PTC issued June 15, 2001, and has always required Methods 201A and 202 to measure PM_{10} emissions. No changes were made to the PM_{10} test methods. Permit Condition 16.3.1 states that "A source test will be required to determine the emission rate for PM_{10}." Test results were submitted in a report dated December 19, 2002 but an emissions limit has not been identified.

Review of Item B.2

Simplot submitted proposed test methods for each pollutant at each emissions unit and DEQ reviewed the proposed methods to determine if they were appropriate. See ATTACHMENT D, Item 2.

Proposed Changes to Address Item B.2

Table 2.2 was modified to include specific test methods for each emissions unit. DEQ made the following adjustments to the methods proposed by Simplot:

- specified Method 5 *and 202* should be used for PM
- specified use of Method 16a for total reduced sulfur (TRS) emissions from the phosphoric acid plant
- specified use of Method 13B for fluoride emissions
- specified use of conditional test method 027 (CTM 027) for ammonia emissions
- specified use of Method 10 for carbon monoxide emissions

Review of Item B.3

JRS has withdrawn their appeal of the requirement to monitor citizen complaints of fugitive dust and odor.

Proposed Changes to Address Item B.3

None

Review of Item B.4

a. Pocatello regional office staff had no record of problems with fugitive dust from the Don Plant.

b. Pocatello regional office staff had no record of problems with visible emissions from point sources at the Don Plant.

Proposed Changes to Address Item B.4

a. Visible emission inspection frequency in Permit Condition 2.8 was changed from weekly to monthly. The word "point" was also added to Permit Condition 2.8 to clarify that the monthly inspection is to be done on potential point sources of visible emissions.

b. Permit Condition 2.8 was not revised to state that water vapor, nitrogen oxides, and chlorine gas are excluded from the see/no see evaluation because Permit Condition 2.7 (which is also under the sub-header "Visible Emissions") contains the 20% opacity limit and specifically states that "these provisions shall not apply when the presence of uncombined water, nitrogen oxides, and/or chlorine gas is the only reason(s) for the failure of the emission to comply with the requirements of this section."

c. Permit Condition 2.8 was not revised to exclude the sources which are subject to source-specific visible emissions requirements. The facility-wide inspections in Permit Condition 2.8 are in addition to the source-specific monitoring requirements.

d. Fugitive dust inspection frequency in Permit Condition 2.4 was changed from weekly to monthly.

Review of Item B.5

One of the goals of the Title V permit program is to ensure that all applicable requirements are contained in the Title V permit. Appendices A and B of the permit contain provisions that apply to the Don Plant. The DEQ has reviewed these appendices with a view to removing redundant or non-applicable requirements. However, excising of certain portions would result in the remaining sections potentially being read and interpreted out of context.

Inclusion of the appendices in the permit provides for a more complete picture of requirements that apply to the facility, and so facilitate facility compliance as the requirements are in the permit instead of in a separate document. Additionally, the identification of these requirements provide DEQ inspectors and the public with a more complete list of applicable requirements.

Proposed Changes to Address Item B.5

The appendices and other lengthy permit conditions have not been altered as their existence not only is consistent with the Rules but also facilitates facility compliance.

Review of Item B.6

The general requirement to monitor and record throughput rates first appears in the December 18, 1989, Plant Expansion PSD operating permit on page 54 under Special Studies. Permit Condition 3.1 states "The permittee shall obtain and keep on file for two years the following process and equipment information: 3.1.3. The number of actual hours in each calendar year that each process operates. The throughput rates for each material flow direction and for each piece of process equipment." Permit Conditions 3.1.1 and 3.1.2 of the 1989 permit required Simplot to monitor and record silt content and moisture content for each incoming ore and dry product along with the drop heights of each material handling system transfer point. Therefore, it appears the point of the special studies section of the permit was to obtain information to determine emissions from material handling processes. In the August 29, 1994 operating permit, only the requirement to monitor hours of operation and throughput rates remained. The silt content, moisture content, and drop height monitoring requirements were not included. Because the original intent of the special studies section of the operating permit was to determine emissions from only the material handling processes, it does not make sense to include the requirement to monitor hours of operation and throughput rates for each material in the facility-wide requirements of the permit. Each significant source at the plant has its own section of the permit that contains adequate monitoring and recordkeeping to determine emissions.

Proposed Changes to Address Item B.6

Permit Condition 2.23.1 was removed from the permit because it is obsolete.

Review of Item B.7

The no. 100 and 200 ammonia plants and nitric acid plant discontinued operation in August, 2002.

Proposed Changes to Address Item B.7

The no. 100 and 200 ammonia plants (Section 3) and nitric acid plant (Section 11) were removed from the permit.

Review of Item B.8

The permit limits in the Tier I operating permit cannot be modified without first modifying the limits in the underlying permits (PTCs and Tier II) that are the basis of the Tier I requirements.

Proposed Changes to Address Item B.8

No changes were made to the permit. Simplot will address changing emissions limits through PTC or Tier II permit modifications.

Review of Item B.9

The process weight rate emissions limits for each process identified in the appeal were reviewed and compared with the existing hourly permit limits. Where the existing hourly permit limits are more stringent than the process weight rate standard the permit conditions were streamlined.

Proposed Changes to Address Item B.9

Permit Condition 4.2 – Ammonium sulfate - Process weight rate is an applicable requirement. Because the PM permit limit of 2.44 lb/hr (Permit Condition 4.1) is more restrictive than the process weight rate as explained in the tech memo, compliance with Permit Condition 4.1 shall be deemed compliance with Permit Condition 4.2 (process weight rate).

Permit Condition 7.1.2 – Granulation no. 1 - Process weight rate is an applicable requirement. Because the PM permit limit of 23.8 lb/hr (Permit Condition 7.1.1) is more restrictive than the process weight rate as explained in the tech memo, compliance with Permit Condition 7.1.1 shall be deemed compliance with Permit Condition 7.1.2 (process weight rate).

Permit Condition 14.1.2 – Cooling towers - According to JRS[2], the maximum process rate (flowrate) through the cumulative cooling tower cells is 30,000 gpm which equates approximately to a PWR of 7,500 tph.

$$(30{,}000 \text{ gpm}) * (1 \text{ ft}^3/7.48 \text{ gal}) * (62.4 \text{ lb/ft}^3) * (1 \text{ ton}/2000 \text{ lb}) * (60 \text{ min}/ 1 \text{ hr}) = 7{,}508 \text{ tph}$$

Dividing the total flow rate by the 8 cells gives a process weight of 938 tons per hour per cell. Using a PWR of 938 tph in the PWR equation for new equipment found in IDAPA 58.01.01.701, the allowable emissions are 40.7 lb/hr per cell. Because the PM permit limit of 17.65 lb/hr per cell (Permit Condition 14.1.1) is more restrictive than the process weight rate, compliance with Permit Condition 14.1.1 shall be deemed compliance with Permit Condition 14.1.2. Because Simplot is no longer required to demonstrate compliance with the PWR equation on a periodic basis Permit Condition 14.6.2 was also removed from the permit. Permit Condition 14.6.2 required Simplot to record the flow to the cooling tower and calculate the PWR limit using the equation that was in Permit Condition 14.1.2.

Permit Condition 16.3.2 – Sulfuric acid plant no. 300 - The permit has a PM_{10} emission limit, but not a PM emission limit. The PTC issued for the no. 300 sulfuric plant in 2001 required that initial performance testing include PM/PM_{10} emissions. Upon completion of that emission testing, PM/PM_{10} emission limits would be developed through discussions between DEQ and Simplot. Those discussions have not yet taken place. Therefore, PM/PM_{10} emission limits have not been developed for the no. 300 sulfuric acid plant and the process weight rate limitation is necessary.

Permit Condition 17.4 – Sulfuric acid plant no. 400 - The permit does not have a specific PM emission limit. Therefore the process weight rate limitation is necessary.

[2] Email attachment received May 30, 2003 from Alan Prouty

Review of Item B.10

a. Simplot has withdrawn their objection to Permit Conditions 4.15 and 4.16 that require the installation and maintenance of fluid flow rate and pressure drop monitors on the scrubbers.

b. Simplot has withdrawn their objection to Permit Conditions 7.13 and 8.13 that require monitoring of pressure drop across the baghouses on the granulation no. 1 and no. 2 processes.

Proposed Changes to Address Item B.10

None

Review of Item B.11

a. The Tier I permit conditions under appeal are summarized in Table 1 along with the existing test frequency from the underlying permits. The annual performance testing frequency was required in the existing permits for all emissions units except the granulation no. 3 plant.

TABLE 1. SOURCE TEST FREQUENCY

Permit Conditions	Condition Summary	Existing Test Frequency	Permit Limit	Summary of test results
4.11.	Ammonium sulfate dryer and cooler - PM and PM_{10} tests annually	PM_{10} –annually using Method 5 and 0.82 factor (Tier II No. 077-00006, 12/3/99)	PM – 2.44 lb/hr PM_{10} – 2.0 lb/hr (combined limit) (Tier II No. 077-00006)	See attached table from J.R. Simplot Co.
7.18.1	Granulation 1 process, dryer stack, R/G stack, baghouse stack – PM and PM_{10} tests annually	PM_{10} –annually using Method 5 and 0.82 factor (Tier II No. 077-00006, 12/3/99)	PM – 23.8 lb/hr PM_{10} – 19.52 lb/hr (combined limit) (Tier II No. 077-00006)	
8.18.1	Granulation 2 process, scrubber stack, baghouse stack – PM and PM_{10} tests annually	PM_{10} – annually using Method 5 and 0.82 factor (Tier II No. 077-00006, 12/3/99)	PM – 22.02 lb/hr PM_{10} – 18.06 lb/hr (combined limit) (Tier II No. 077-00006)	
9.17	Granulation 3 stack – PM, PM_{10} and fluoride tests	Initial performance test within 180 days of startup (PTC No. 077-00006, 12/12/01)	PM – 7.0 lb/hr PM_{10} – 5.7 lb/hr F – 1.28 lb/hr (PTC No. 077-00006, 12/12/01)	
12.13.1	Phosphoric acid plant – PM and PM_{10} tests annually	PM_{10} –annually using Method 5 and 0.82 factor (Tier II No. 077-00006, 12/3/99)	PM – 3.38 lb/hr PM_{10} – 2.77 lb/hr (Tier II No. 077-00006)	
14.8	Cooling tower cells – test 3 cells each year for PM, PM_{10}, and F	PM_{10} – annually using Method 5 and 0.2 factor F – annually (Tier II No. 077-00006, 12/3/99)	PM – 17.65 lb/hr per cell PM_{10} – 3.53 lb/hr per cell F – 4.9 lb/hr per cell (Tier II No. 077-00006, 12/3/99)	
16.11	No. 300 Sulfuric Acid			
16.11.1	SO_2 and H_2SO_4 annually	Initial performance test and annually thereafter (PTC No. 077-00006, 12/12/01)	SO_2 – 170 lb/hr H_2SO_4 – 3.0 lb/hr (PTC No. 077-00006, 6/15/01)	
16.11.2	NO_x annually	Initial performance test and annually thereafter (PTC No. 077-00006, 12/12/01)	64 T/yr (PTC No. 077-00006, 6/15/01)	
16.11.3	PM_{10} annually	Initial performance test and annually thereafter (PTC No. 077-00006, 12/12/01)	Based on source test. (PTC No. 077-00006, 6/15/01)	
17.10	No. 400 Sulfuric acid – SO_2 and H_2SO_4 annually	Annually using Method 8 (Tier II No. 077-00006, 12/3/99)	SO_2 – 999 lb/ 3-hour H_2SO_4 – 12.5 lb/hr (Tier II No. 077-00006, 12/3/99)	

b. The nitric acid plant was permanently shut down in August, 2002.

Proposed Changes to Address Item B.11

a. For those units that are required to test annually the test frequency cannot be changed in the Tier I permit until after the underlying permit condition is modified. The granulation no. 3 plant test frequency, Permit Condition 9.17.6, was not changed either because it already includes the tiered testing frequency consistent with other Tier I operating permits.

b. The nitric acid plant requirements have been removed from the permit.

Review of Item B.12

Permit Condition 9.23 required Simplot to keep a record of whenever ammonia was introduced to the granulation no. 3 process. This requirement was determined to not be necessary because Simplot is currently unable to introduce ammonia into the granulation no. 3 plant without physically changing the plant and would have to undergo preconstruction review prior to making the modification. Permit Condition 9.24 previously required Simplot to comply with 40 CFR 63 Subpart BB immediately upon the introduction of ammonia into the granulation no. 3 plant. Permit Condition 9.24 was revised to make it clear that Subpart BB is not currently applicable to the granulation no. 3 plant and that Simplot must notify DEQ prior to introducing ammonia to the plant.

DEQ verified that any and all gypsum stacks (piles) at the Don Plant are currently active (being used).

Proposed Changes to Address Item B.12

Permit Condition 9.23 was removed from the permit and Permit Condition 9.24 was revised to state the nonapplicability of 40 CFR 63, Subpart BB.

The requirements pertaining to inactive gypsum stacks in Section 10 of the permit were removed because all of Simplot's gypsum stacks are currently active. Changes to the permit consisted of removing the second part of Permit Condition 10.3, which had a Radon-222 emission limit for inactive stacks, and all of Permit Condition 10.4, which contained Radon-222 emission testing requirements for inactive stacks. Permit Condition 10.10 already required Simplot to notify DEQ immediately upon classifying a gypsum stack inactive and a note was added to the condition to make it clear that the Radon-222 emission limits in 40 CFR 61 Subpart R are applicable if the stack becomes inactive.

Review of Item B.13

Interpretation of permissible streams to the reclaim cooling tower shall be consistent with 40 CFR Part 63, Subpart AA and guidance related to this MACT.

Proposed Changes to Address Item B.13

In the Emissions Unit Description (Section 6.8.1) for the gypsum stacks/piles, the sentence "the decanted water cannot be fed to the Reclaim Cooling Tower" is withdrawn.

Review of Item B.14

Permit Condition 11.7 - This condition is an annual source test requirement for NO_x at the nitric acid plant (per Tier II). The nitric acid plant is no longer operational.

Permit Condition 15.14 - This condition is for an optional source test for NO_x from the SPA process to determine compliance with the emissions limit. The compliance demonstration method is from the December 3, 1999 Tier II operating permit, Appendix A, footnote K. Footnote K is referring to the pound per hour NO_x and CO emissions limits on the extended absorber scrubber and states, "As determined by a pollutant specific promulgated U.S. EPA Method, or DEQ-approved alternative, or as determined by DEQ's emission estimation methods used in the "Extended Absorption Scrubber" Permit to Construct (April 17, 1990) analysis." Simplot submitted NO_x test reports on August 26, 2003, for EPA Method 7 tests conducted January 17, 1991 and May 4, 1992 on the extended absorption scrubber (reports dated April 30, 1991 and July 30, 1992). The NO_x emissions limit is 0.10 lb/hr. Results of the January 17, 1991 test document an emissions rate of 0.052 lb NO_x/hr at a phosphoric acid feed rate of 190 gallons per minute. A noted deviation for this test was that due to the small stack diameter (3 inches) a conventional Method 1 velocity traverse could not be conducted and an electronic flow measuring device was used instead to determine stack velocity. Results of the May 4, 1992 test document an emission rate of 0.013 lb NO_x/hr at a phosphoric acid feed rate of 190 gallons per minute. Both tests demonstrated compliance with the emissions limit.

Permit Condition 15.15 - This condition is an optional source test for CO from the SPA process to determine compliance with the emissions limit. The condition states:

> "The permittee shall either conduct a compliance test to measure CO emissions from the SPA primary-control scrubber stack utilizing a pollutant-specific method promulgated by the EPA, a Department-approved alternative, or use the Department's emission estimation methods used in the analysis of the "Extended Absorption Scrubber," PTC No. 077-00006, dated April 17, 1990, to demonstrate compliance with the CO limit in Permit Condition 15.3."

Simplot submitted NO_x test reports on August 26, 2003, for tests conducted January 17, 1991 and May 2, 1992. The tests contained ORSAT data used to determine molecular weight of the stack gas, U.S. EPA Method 3, but did not have U.S. EPA Method 10 test results (pollutant-specific method). Simplot stated in the letter received August 16, 2003 that the ORSAT data implied that there were no CO emissions. Method 3 is applicable for the determination of carbon dioxide (CO_2) and oxygen (O_2) concentrations used to determine stack gas molecular weight. Method 10 is applicable for the determination of carbon monoxide emissions from stationary sources. Simplot has not yet provided data documenting that a pollutant-specific EPA Method test for the determination of CO emissions has been conducted on the SPA plant.

Permit Condition 16.3.1 - This condition is a one-time source test for PM_{10} at the no. 300 sulfuric acid plant (per June 15, 2001 PTC). The test was conducted and documented in a report dated December 9, 2002.

Permit Condition 16.11 - This condition requires annual source testing at the no. 300 sulfuric acid plant (per June 15, 2001 PTC) as follows:

16.11.1 for SO_2 and H_2SO_4,
16.11.2 for NO_x,
16.11.3 for PM_{10},
16.11.4 for NH_3, and
16.11.5 for opacity.

Tests were conducted December 2001 and November 2002. All tests demonstrated compliance. SO_2, NO_x, and NH_3, were all generally well below the allowable emission rate.

Permit Condition 16.14 – This condition clarifies that the results of the annual performance tests required in Permit Condition 16.11 must be submitted to DEQ within 30 days of conclusion of the tests.

Proposed Changes to Address Item B.14

Permit Condition 11.7 - Since the plant is no longer in service this condition was deleted.

Permit Condition 15.14 - A note was added to Permit Condition 15.2 stating that EPA Method 7 NO_x testing was conducted and documented in reports dated April 30, 1991 and July 30, 1992. Permit Condition 15.14 was removed.

Permit Condition 15.15 - The permit condition has been revised to require a compliance demonstration during calendar 2004.

Permit Condition 16.3.1 - A note was added to Permit Condition 16.3.1 to indicate that the test had been conducted and documented in a report dated December 9, 2002.

Permit Condition 16.11 - The requirement to conduct an initial performance test not later than 180 days after the plant modification was removed because the condition has been satisfied. Since the annual test requirement is per a PTC, Simplot needs to request to modify the PTC to reduce frequency of testing with justifications before the Tier I testing frequency can be changed.

Permit Condition 16.14 – This condition remains in the permit because it clarifies that the results of the annual performance tests required in Permit Condition 16.11 must be submitted to DEQ within 30 days of conclusion of the tests.

Review of Item B.15

This issue is still under review.

Proposed Changes to Address Item B.15

None.

Review of Item B.16

In order to address this appeal item, DEQ revisited the basis for the H_2SO_4 emissions limit and how compliance with the emissions limit is demonstrated. The basis of the H_2SO_4 emissions limit is at IDAPA 58.01.01.585. The acceptable ambient concentration (AAC) of sulfuric acid is 0.05 mg/m^3. The AACs in Section 585 are 24-hour averages and the permit specifies that the hourly sulfuric acid emission limit cannot be exceeded on a 24-hour average. To demonstrate compliance with the emissions limit the permit requires a performance test to demonstrate compliance with the hourly emission limit and then limits the corresponding sulfuric acid production rate to 120% of the rate achieved during the performance test calculated as a rolling 24-hour average. The production rate limitation is the surrogate parameter used to demonstrate compliance with the emissions limit. The permit does not require Simplot to monitor H_2SO_4 continuously. In reviewing the permit it was determined that Permit Condition 16.13 should be amended to require recording of the rolling 24-hour average production rate in addition to the hourly production rate to be consistent with the production limit.

Proposed Changes to Address Item B.16

Permit Condition 16.13 was amended to require recording of the rolling 24-hour average production rate in addition to the hourly production rate to be consistent with the production limit.

Review of Item B.17

Simplot has withdrawn their objection to this permit condition and may submit a separate PTC application in the future to increase no. 300 sulfuric acid plant production from 1750 T/day to 1900 T/day.

Proposed Changes to Address Item B.17

None

Review of Item B.18

Reconciliation of the opacity standards is not possible because IDAPA 58.01.01.625.04.c requires sources subject to New Source Performance Standards to calculate opacity as detailed in IDAPA 58.01.01.625.04 and as specified in 40 CFR Part 60.

Proposed Changes to Address Item B.18

None

Review of Item B.19

Permit Condition 16.7.2 requires that visible emissions not be observed leaving the property boundary for a period or periods aggregating no more than three minutes in any 60-minute period and that visible emissions be determined using EPA Reference Method 22. Permit Condition 2.4 adequately addresses the compliance demonstration for fugitive emissions. However, the condition comes from PTC No. 077-00006, issued June 15, 2001, for the no. 300 sulfuric acid plant so it cannot be removed from the Tier I permit until after it is removed from the PTC.

Proposed Changes to Address Item B.19

No changes were made to the Tier I permit at this time. Simplot will request a PTC modification to remove the condition.

Review of Item B.20

The ambient SO_2 monitoring conditions cannot be considered obsolete. The requirement to monitor ambient SO_2 concentrations exists in the federal regulations (40 CFR Part 52) and, consistent with correspondence between Simplot and EPA Region 10, additional SIP actions are required to remove these conditions. However, the DEQ understands that the Don Siding Plant currently operates two monitoring stations instead of the four required under 40 CFR 52.675. The original Tier I permit specifies, in the compliance schedule, the actions necessary on the part of Simplot to work towards removal of these requirements and resolution of this issue.

Proposed Changes to Address Item B.20

No changes were made to the Tier I permit.

Review of Item B.21

a. The DEQ reviewed the language used in Section 18 (Compliance Schedule) of the permit and found that it was not consistent with language used in other Tier I compliance schedules.

b. The DEQ understands that the Don Siding Plant currently operates two monitoring stations instead of the four required under 40 CFR 52.675 so this item remains in the compliance schedule.

c. The DEQ has reviewed the issues identified in the compliance schedule and has determined that a Tier II operating permit will not remedy the compliance issues. The ambient fluoride standard is being addressed through a consent order and the ambient monitoring of SO_2 will be addressed through a SIP revision.

Proposed Changes to Address Item B.21

a. The language in Section 18 has been revised and is consistent with the language used in other Tier I permits.

b. No changes were made to the Tier I operating permit.

c. The requirement to apply for and obtain a Tier II operating permit has been removed from the permit.

Review of Item B.22

a. All conditions identified in the appeal (Permit Conditions 2.3, 7.11, 7.12, 8.1-8.12, and 12.4) are either from a Tier II operating permit developed in accordance with federally approved rules or are monitoring requirements to ensure compliance with federally approved rules.

Permit conditions from the Tier II operating permit: 7.11, 7.12, 8.1.1, 8.2, 8.3.1, 8.4, 8.5, 8.6, 8.7, 8.8, 8.9, 8.11, 8.12, 12.4

Permit conditions from the IDAPA air rules: 2.3, 8.1.2, 8.3.2, 8.7, 8.8, 8.9, and 8.10

Proposed change

All of the requirements are federally enforceable and no changes were made to the permit.

b. The ambient fluoride standard is contained in IDAPA 58.01.01.577.06. "Primary and secondary air quality standards are those concentrations in the ambient air which result in a total fluoride content in vegetation *used for feed and forage* of no more than:..."

Proposed change

The requested changes were made. Permit Conditions 2.23.2 and 2.24 as well as Table 2.1 were revised to clarify that Simplot must monitor the total fluoride content in vegetation used for feed and forage which is consistent with the ambient fluoride standard in IDAPA 58.01.01.577.06.

c. Simplot has withdrawn their objection to this permit condition.

Proposed Change

None.

d. The DEQ reviewed the Tier I application materials and concurs with Simplot that the correct heat input rating for the HPB&W Boiler is 175,000,000 Btu/hr.

Proposed Change

The heat input rating was corrected in the summary description of the HPB&W Boiler (Section 5).

e. The DEQ reviewed the NSPS and concurs with Simplot that the correct citation for the NO_x emission limit in Permit Condition 5.4 is 40 CFR 60.44b(a)(1).

Proposed Change

The citation was corrected.

f. The DEQ reviewed the requirements of 40 CFR 63.624 and concurs that Simplot must maintain the daily *average* of the pressure drop across each scrubber.

Proposed Change

The word "averages" was added to Permit Condition 7.10. "[T]he owner/operator using a wet scrubbing emission control system must maintain daily averages of the pressure drop across each scrubber."

g. Simplot requested the summary description in Section 9 (second paragraph) be revised to "mono- or di- calcium phosphate product." Simplot commented on the description during the public comment period stating the description should be "mono- or di- phosphate products. Do not include calcium phosphate products." Simplot later submitted this clarification to the summary description in Section 9: "Calcium should be included. The statement during the public comment period is not correct. The intent was to identify the manufacture of "mono" and "di" calcium phosphate products and exclude the manufacture of ammonia products at Granulation III. The Summary Description contained in the Title V permit on page 47 is correct except for changing "bi" products to "di" products..."

Proposed Change

The requested change was made to the summary description in Section 9 so that it now reads "mono- or di-calcium-phosphate product...."

h. The summary description of Section 9 (third paragraph) stated that the granulation no. 3 process "was capable of making diammonium and/or monoammonium phosphate by introducing ammonium into the process." Simplot is not permitted to make diammonium and/or monoammonium phosphate products through the introduction of ammonium and would have to undergo preconstruction review to do so.

Proposed Change

The third paragraph of the summary description in Section 9 was changed to read, "The Granulation No. 3 process is not capable of making diammonium and/or monoammonium phosphate by introducing ammonia into the process."

i. The DEQ compared the Table 9.1 submitted in Exhibit O of the appeal to the Table 9.1 in the permit and noted the requested changes in the Exhibit O.

Proposed Change

Table 9.1 in the permit was updated as requested in Exhibit O.

j. The granulation no. 3 process was modified in 2001 so the applicable process weight rate equation is in IDAPA 58.01.01.701 for processes commencing operation on or after October 1, 1979.

Proposed Change

Table 9.2 and Permit Condition 9.1.2 were updated accordingly.

k. The DEQ compared Table 12.1 in the permit to the Table 12.1 provided in Exhibit O and did not find any differences in the tables.

Proposed Change

No changes were made to Table 12.1.

l. The DEQ reviewed the heading in Section 14 (Reclaim Cooling Tower Cells) and concurs that it should read "Direct Contact" rather than "Directed Contact."

Proposed Change

The heading was revised.

References Cited

EMC TID-009 (Emission Measurement Center Technical Information Document-009), Environmental Protection Agency, September 9, 1991. http://www.epa.gov/ttn/emc/informd.html, accessed 9/19/03.